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IN ITS WIDEST SENSE

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Professor in the Imperial College, Sapporo, Japan.

Author of "History of the Intercourse between the United States and Japan,"

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VOL. XX

FEBRUARY, 1900

No. 230

AN IDEAL CROSSING

SYLVESTER S. GARRETT

TO one who first crosses the Atlantic, the voyage is a succession of novelties and usually of pleasures. For a time the rest of the world is forgotten, and those fortunate enough to be passengers, feel a sort of interdependence and self-sufficiency never before realized.

Perhaps no other trans-atlantic voyage offers the attractions which are found in the journey from New York via the Azores and Gibraltar to the historic Mediterranean. Sail from New York in the middle of June and you may depend upon it that you will have literally over four thousand miles of pleasure. Sea-sickness need have no terrors. Take care of yourself for about a week before starting and you need fear nothing worse than possibly a few hours discomfort.

The ship enters the Gulf Stream about twenty-four hours after leaving New York and we sail along that wonderful ocean-river for some three days. We sweep across the Atlantic

in a north-easterly direction until the fourth day when our Captain sends his vessel on a gradual curve to the southerly. Now we sail on what is known as "the arc of a great circle of the Earth."

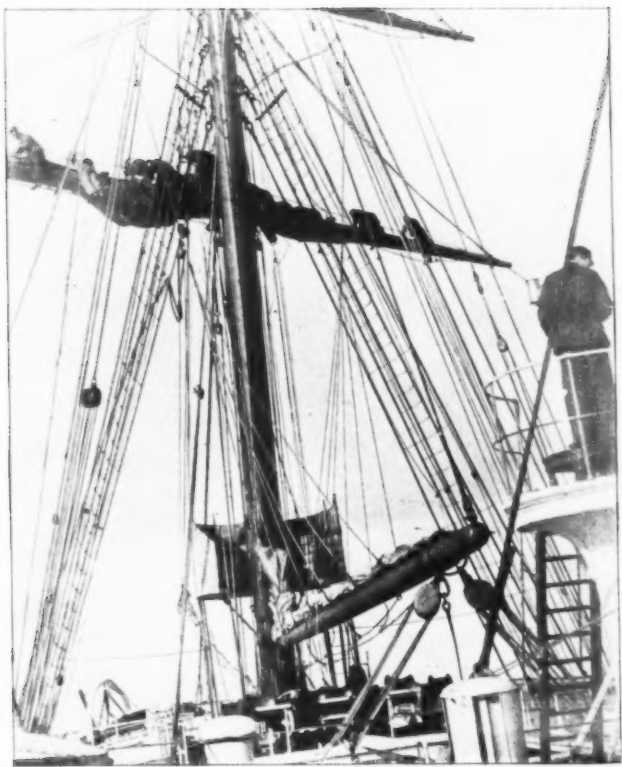
Let us become acquainted with our Captain. We find him affable and approachable by all—a German with a delightful accent and attentive to the ladies. He invites the passengers to the bridge in fair weather and we then see that he is as good a sailor as he is a gentleman. A grizzled old tar stands resolutely at the wheel, his eyes fixed on the tumbling waves ahead. Well may he be careful, for the lives of five hundred depend upon his vigilance.

When the Captain so desires he can practically control his ship independently of the rudder. Several dials are arranged about the bridge on strong pedestals and by using a handle at the top of these instruments, it is possible for him to telegraph to the engine room and disconnect one of the propellers, drive them both full speed astern, ahead or to actuate them in opposite directions, so as to spin the ship around.

Nothing is more impressive to the lover of machinery than a visit to the engine rooms. One of the subordinate engineers is generally willing to take a party of men down into the ship's heart. After climbing down innumerable ladders and crawling through impossible holes, we at length arrive at the bottom. Overhead tower the massive high- and low-pressure cylinders and the immense pistons seem things of life as they urge the great reluctant shafts to their duty.

We soon reach the stoke-room and enter one of the hottest places on earth. The ever-hungry monster must be fed, even at a cost of human suffering. The temperature during our stay in the stoke-room was 134 degrees Fahrenheit, and you can easily imagine how intolerable hard work is in such a place.

We had often heard about life in the steerage and soon felt a desire to see for ourselves that part of the ship which is inhabited by our humbler and less fortunate brethern. My companion and myself made a descent upon the steerage towards eleven o'clock one night. With a petty officer as a guide, we stumbled down the dark and forbidding companion-way in the fore-castle, groped past the sick-bay, and down more steps and we were in the steerage.



In the Foremast Rigging

SYLVESTER S. GARRETT



Irish Emigrants Coming Aboard

SALVASTER S. GARRETT

A long, low ceiled room, lighted here and there by flickering oil-lamps and filled with chattering Italians greeted our view. As it was quite late, many of them were "turning-in." The room was filled with bunks and such a thing as privacy seemed out of the question. Through the tiny port-holes we could see the phosphorescent water outside, for we were far below the surface and ventilation seemed never to have been considered.

But fortunately our lot was cast among the passengers of the promenade deck. Our thoughtful Captain surprised us one evening when we came out on deck after dinner. We found it transformed into a ball-room, the side towards the sea was closed in with heavy canvas and was festooned with flags of every nation under the sun. The whole was brilliantly lighted by electricity and I think few of us will forget that dance, "rocked in the cradle of the deep."

We were favored in having moon-light on our voyage and the pleasures of an evening at sea when the vessel leaps from one silver crest to another are unsurpassrd. Some of us used to climb up on the life-raft which was lashed to the stern and watch the ever-changing wake. As we were in southern seas, the water was full of phosphorescence, and our trail of liquid silver shone gloriously with lambent flashes of its own light.

On the evening of our fifth day, land was sighted off our port bow. What to a landsman seemed a filmy cloud proved to be the loom of Flores, the most western of the Azores. Next morning we found ourselves passing an island bounded by rugged cliffs, whose sides were cracked and seamed. The origin of the Azores was undoubtedly volcanic, as is evidenced by the character and form of the crystallization of the rocks. As a consequence, the soil is quite fertile, and the group supports a population of about 200,000. It is a possession of Portugal. There are two cities of some importance: Agra, the largest; and Fayal, the best known. From our ship we were able to form a tolerably correct idea of the group and could see cattle grazing and people waving to us from the mountain-sides. The highest mountain in the group is Pico, an extinct volcano of 7613 feet.

Gradually we passed all the islands and when, at three in the afternoon, San Miguel (St. Michael's) dropped from the

horizon we realized ourselves once more quite alone on the great deep.

The next day was an ideal experience for mid-ocean. The sea rivalled the cloudless sky in hue and our vessel rose and fell on the easy surges as we sped onwards. Here and there a white-cap emphasized the blue of the ocean and at the ship's side, one could see the dolphins and porpoises playing about.

On the following afternoon we were nearing the Portuguese coast. As the sun was setting and lay like a fiery ball on the horizon's edge, we saw the outline of a brig, westward bound, stand out against its surface. As we watched it, we involuntarily thought of the fearless Columbus, whose caravels of destiny had traversed the same seas four hundred years before. How different, and yet how similar were the circumstances! *He* were discovering what to us was an untrodden, undiscovered country, but under our feet were the decks of a staunch Atlantic liner.

Think of the courage of the navigator whose undiscovered country could only be reached after weary months of tossing on the tumultuous waves with nothing but a frail and tiny bark and a mutinous, foreign crew!

As night was falling, we saw the revolving light at Cape St. Vincent, Portugal, and we caught the indescribable "piney" odor of land. At about nine o'clock we saw the twinkling lights of a village on the coast. The town which lay before us wrapped in the gloom was none other than Palos, Spain, the spot at which Columbus said farewell to the Old World and launched upon his desperate voyage into the unknown.

At five the next morning we could see the brown hills of Southern Spain stretching along the northern horizon. At first the land was shrouded in mists but, as the sun gained strength, the outlines of trees and houses upon the shores became more and more distinct. At about seven o'clock, we caught a glimpse of the coast of Morocco through a rift in the fog. The mistiness of the entrance to the Straits of Gibraltar is due without doubt to the nearness of the Great Desert, whose vast volume of sand gives off an immense amount of heat during the night.

By eight o'clock we were passing close to the Pillars of Hercules and in an hour, dropped anchor in Gibraltar Bay. Close

by us lay a white ship beautifully outlined against the waves and as we saw the bit of striped bunting which floated at the stern unfold itself, a thrill of joy shot through us as we saw it glorious with stars. It was our friend the Minneapolis, U. S. N., and behind her lay the cruiser Cincinnati, equally trim and yacht-like in the morning light. As we were some distance from the shore, we were landed in tenders. The town of Gibraltar is fortified on all sides and we were admitted one at a time through the gate at the wharf.

We were not long in engaging carriages and started to "do" Gibraltar. The city lies at the base of a mountainous headland which almost closes the strait. The true Rock of Gibraltar is distant about a mile or so from the water: we found it a



The Welcome Dinner Call

SYLVESTER S. GARRETT



A Lane—Isle of Wight

stupendous granite cliff whose sheer drop of six or seven hundred feet formed the boundry between Spain and the British possession, Gibraltar.

One hears much about the military advantages of this place, but can scarcely form an adequate idea of what seems to be absolute impregnability. Think of a mountain sheltered on the sea-front by the giant cliffs and dangerous shoals given by nature and on the landward side by a stupendous jagged rock whose bare sides defy the foot of man.

The defenses of Gibraltar are something to make one shudder. In the Bastions along the water-front lie over fifty cannon of 110 tons each, and the whole Rock is honey-combed with holes in which lurk guns of scarcely smaller caliber.

The town of Gibraltar has possibly the most cosmopolitan population of any place of its size in the world. In the market place one hears Moors, Turks, Spaniards, French and Italians jabbering away for dear life while here and there we hear the familiar voice of an Englishman or an American.

Early that afternoon we were again swinging along, this time in the Mediterranean. The Great Sea was blue and calm as a lake and we were in sight of the shore almost all the time. Once in a while during the afternoon we caught sight of the snow-clad peak of one of the Sierra Nevadas, a range of the Maritime Alps. The next afternoon, the Balearic Islands were passed. I remember how their tawny sides gleamed from the blue sea like nuggets of gold, set among the white breakers.

The following fore-noon we were standing on the bridge with the captain, when the booming of heavy cannon startled us. Away ahead we saw two or three black objects on the horizon and as we approached them, the sudden gleam of fire which burst from their sides, followed by the heavy roar of a cannon, told us that they were vessels of war. Our interest in watching them was heightened as you may well imagine, when we saw the splashes of a shell bounding in our direction across the waves.

"They are shooting" remarked the captain, which it was easy, by the way, to observe. However, the projectiles were much too sociable for our ideas and we were considerably relieved when the captain gave an order to the officer who had

the wheel and he spun it over to the left. After that the shells dropped farther and farther away. It was interesting to watch the fountain of spray which gushed upwards at the impact of the metal. Our solicitude for the ship's safety was quieted when we saw that we were not to be the target. A triangular bit of canvas arranged upon a small raft was the unfortunate object against which the dogs of war were hurling their fury. As the course of our vessel changed, we gradually drew away from the fleet and in half an hour we were only told of its presence by the dull boom of a cannon in the distance behind a headland.

At noon we began to edge in close to the shore, which was in this place very picturesque. The coast is here called the Riveira and is dotted with sea-side resorts. We passed Cannes and St. Margarets Island and later, Monte Carlo. The famous casino we could see quite plainly. It is a cathedral-like structure, with two tall towers in front and fountains and flower-gardens about.

Towards the middle of the afternoon we were entertained by watching a railway train on the coast, bound from Genoa to Marseilles. With the aid of glasses we could distinguish the peculiar little engine with its train of absurd little coaches and were much amused in watching the way it dodged through the tunnels and scurried like a squirrel over a bridge. Occasionally a jet of white would gush from the engine and the tiny warble of the whistle would float over to us across the waves.

But now our voyage is nearly over. After an early supper we come out on deck to find the good ship standing up into the Gulf of Genoa. Behind us the sun was placidly setting, its days' work done, and we thought of that dear land across the waves where it was still shining in the glories of noon-day. Our great engines seemed conscious of the completion of their work and we swung along easily and quietly into our haven. Gently we rounded a promontory and, as the stars crept out one by one from the falling obscurity, the sparkle of the lights of "Genova, la Superba," shining from her hills as they had done centuries before upon the boy Columbus, told us that our journey, our ideal crossing, was now but a pleasant memory.

PASSE-PARTOUTS AND HOW TO MAKE THEM

HENRY G. ABBOTT

THE Passe-Partout is undoubtedly the ideal method of mounting a photograph which is worth preserving. It keeps the print flat and clean and is artistic and cheap.

Briefly speaking a passe-partout (pronounced pas-par-to), is a photograph mounted with a glass in front and a heavy piece of cardboard at the back, the whole held together by means of an edge binding of linen or tough paper.

There are four distinct types of passe-partouts, or variations in the mountings. The first or most popular style is that in which the photograph is mounted upon a card; the second in which a mat is placed over the photograph, which is mounted upon the backing; the third in which the photograph is printed in the center of a large sheet, as 4 x 5 negative printed in the center of an 8 x 10 sheet and the fourth in which the glass is the same size as the photograph and the binding laps slightly over the picture. The latter style is seldom used and is the least preferable of the four, for nothing helps so much to bring out the points of a photograph as a good margin around it in the shape of a mount or mat.

The first and most important step is to determine the size of your mount and glass and in this you must be governed entirely by the size of your photograph and your individual taste. A 4 x 5 picture should be passe-partouted not smaller than 6½ x 8½ and a 5 x 7 not smaller than 8 x 10, if the entire picture is to be used. If the 4 x 5 is to be cut down a 5 x 7 glass might be made to answer very well. As a rule a 3 x 4 photograph should have not less than 1½ inches of mat all around; a 4 x 5 not less than 1¾; a 5 x 7 not less than 2



FIG. 1.

inches, and so on. As the photograph increases in size so the border between it and the binding should be increased. The effect of different sized mountings for the same picture will be readily appreciated by comparing the two passe-partouts shown in Figs. 1 and 2. In figure 1 the photograph is $4\frac{1}{2} \times 6\frac{3}{8}$ with a margin of $\frac{7}{8}$ of an inch between the photograph and the binding, the glass being $6\frac{1}{2} \times 8\frac{1}{2}$. Fig. 2 illustrates the same photograph but in this instance an 8 x 10 mount and glass are used and yet the change is so great that at a first glance it would seem as though it was a very much larger photograph.



FIG. 2.

The size of the mount being determined, a glass and backing of the same size must be provided for each picture, binding for the edge and rings and staples for the back. The print is trimmed to the desired size and pasted in the center of the mount, the glass placed over it and the backing placed behind the mount. Before placing the backing in position it will be necessary to make the two slits for the staples which hold the rings to the back. Fig. 3 is a back view of a finished passe-partout, and will give a general idea of the position of the rings.

These rings are held in position in the backing by means of small staples made of tin, which go through the backing and clinch on the inside, back of the mount. In general appearance they resemble Fig. 4. Now if the mount be thin, there is a possibility that the staples may indent the mount and for this reason it is well to cut a small channel for the staples to lie in, after they are clinched down, so they will be just flush with the backing board. Fig. 5 will give a good idea of the appearance of the backing after the staples are clinched down. The staples and rings being in position and the glass thoroughly cleaned on the inside we are ready to proceed.

Place the picture face up upon the table with one side projecting slightly over the edge. The binding comes in rolls of about 15 feet each and about one inch wide. Measure and cut off a strip of the binding the length of the glass, paste it and apply it to the glass side of the picture first, being careful to have the binding lap evenly over the edge of the glass. It should lap about $\frac{1}{8}$ inch on 5×7 or $6\frac{1}{2} \times 8\frac{1}{2}$ glasses while $\frac{1}{4}$ inch is better for the larger sizes. Do not attempt to miter the corners but allow them to run out flush with the edge of the glass and paste the other strip running at right angles to it so that the corners lap, or in other words that the binding is double at the corners. It matters but little whether you

start to bind at the sides or top or bottom but which ever you start with do the opposite side next. For example, if you put the first strip on the top put the second on the bottom, as in this way the side pieces will both cover the top and bottom pieces at the corners. The binding having been placed in the right position on the glass turn the whole around sideways and run your forefinger and thumb along the edge so as to make the binding adhere firmly to the glass and at the same time form a clean sharp edge. Now turn the whole over on the



FIG. 4.

table and rub the binding down firmly on the back, where it usually extends over about $\frac{3}{4}$ of an inch and sometimes more, depending upon the width of the binding. One side or end being completed the others are treated in a similar manner and the projecting ends at the corners trimmed off neatly with the scissors.

This is the simplest and easiest manner of making passe-partouts and the result is a picture in every respect equal to the most

laborious method of cutting out a mat and placing it over the photograph, which has previously been mounted on the backing board or another mount. The binding tape for the edge comes in several colors and in black and your binding can be selected to correspond with your mount although a black binding will look well with any color of mount.

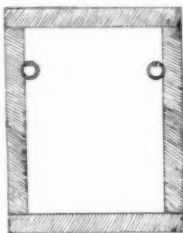


FIG. 3.



FIG. 5.




In Fairmount Park

GEO. H. BRILL

THE CHANCE PICTURE IN THE PHILADELPHIA SALON

By W. B. SWIFT, President Harvard Camera Club.—Read to Harvard Camera Club.

 F this exhibition one might write volumes. I take time, however, to but briefly touch upon that feature of it from which I sincerely hope at least a little good may come. I speak of the standard of acceptance.

In doing this I fear I shall have to be uncomplimentary where it is easier to praise, but I fail to see how to avoid the disagreeable task when the advance of the New Fine Art is retarded and the art itself degraded, by keeping the facts I have any longer; and, I take it, we all place the progress of this New Fine Art above all other possible considerations.

The point, then, in the matter of acceptance at the Salon, is that honors of acceptance have been awarded to men whose pictures are the result of chance. I have been watching the subtle prize-taking power of chance pictures for some time and never even thought of finding any in the Salon. But things I saw and facts I found suggested the presence of the parasite of true photographic art—the "chance" result. I could hardly believe it. Chances had I seen before, that took awards, awards at exhibitions where apparently the only things that had any art were the result of chance, and, to award any prize here, the "chances" must have them. But, at so grand and great a show as the Salon, to see this insidious foe even here creeping in was hardly to be believed. I thought if "chances" received honors here the matter was being carried too far. So I took the next step. I asked the exhibitors, "Is this a chance picture?" "Is that a chance picture?" And thanks to their honest souls, they said they were. These men and women made the way easy by this frank acknowledgment. Even the finding of only one chance picture in such a place is reason enough for the revision of the standard or method of

acceptance, but I found facts indicating that the chances were shockingly numerous.

However much I may try to advocate a truer art and hope for a speedier progress is not for me to dictate. But it seems possible, therefore, that there may be a higher standard of admission to the Salon; a standard that would, through investigation unreservedly exclude those often occurring "chance" pictures that any one, no matter how utterly ignorant of art laws and absolutely destitute of artistic appreciation and feeling, as well as wanting in execution, can by some technical mistake fumble upon. If a man presents ten pictures from his whole life's work and only one shows artistic feeling and execution, the weight of probability points to that one picture as a result of mere chance—only a *happening* that proves absolutely nothing as to the ability of the maker. The vital question is, should this sole picture be honored by acceptance at the highest tribunal of art in this country, thus stamping a man as an artist simply because—as the Salon announces as its purpose—it has "distinct evidence of artistic feeling and execution" before it is reasonably certain that said picture is the product, not of chance, but of a trained mind and a sensitive heart? Should not the purpose rather be exalted to the exhibiting of that class of work *only* that shows by *numerous* and *varied* examples of the application of art laws that the maker is an artist? Surely, if we do this, many will have to go. But for the New Fine Art's sake, let us clear the ranks.

In photographic art, number is the test of skill. Where the exhibitor cannot be personally questioned, it is the only test of skill and ability to apply art laws. If a man presents twenty pictures that show artistic composition, it is reasonable to suppose him an artist. If another presents ten, nine of which are merely matter of fact photographs and the remaining one quite artistic, it is reasonable to suppose—at least until investigation—that one a chance picture, and therefore him not an artist. While it is often hard to tell the chance worker, little and uneven excellences indicate the fluke and the final test is the production of a number of artistic pictures.

In cases where we cannot tell, we must ask the exhibitor. I hope this appeal for a higher standard will settle the matter forever. The New Fine Art is too far advanced now, and the

signs of the artist are too obvious and too numerous, to excuse prize awarding to chance any longer. Henceforth let it be a matter of past history (what I have seen outside of the Salon) that judges award prizes to pictures whose owners had not gained enough art to know before the award that their pictures were of any artistic merit at all. I have seen this happen more than once. Medals should be a recognition of personal ability, and a chance picture is nothing but a mere sham ; while the awarder of prizes to such, without investigation, is distributing unearned honors to those likely to be found unskilled in artistic treatment, unappreciative of beauty in nature or anywhere else, and surely uninitiated into the subtle effects of lights and lines—honors due only to that rare mind, which perhaps after a hard fought struggle, slow artistic growth, and long years of arduous thinking, has finally gained the new power to materialize his imagination in pictures and constantly lives in thought within that fascinating, ennobling, and educating upper world of art.

[An abridged form of the above paper by Mr. Swift was published in the *Photo Era*. Mr. Swift has kindly sent us the entire paper for publication. It is only thus that his views about the chance picture at the Salon can be fairly presented to those who may desire to reply. Personally, we do not see what the judges can do otherwise than to accept the chance picture for its artistic merits.

Some poets have written but a single poem, and yet that poem has been sufficient to immortalize them, though number of production doubtless is the test of artistic skill. We would like to hear further discussion on the subject ; but meanwhile, appreciate the truth of the remarks which Mr. Swift has given expression to in his criticism.]



TESTING THE LENS.

JAMES KAY.

THE intelligent amateur is always anxious to know the full capacity of his lens, so that he may be prepared when it is required to do special work. In the first place he should look to his camera and see what is the quality of the grain in the ground glass focusing screen. The granularity should be of a degree of fineness as will admit of magnification by a glass. It will not suffice to oil the glass thereby making it more translucent; this may lighten up the image on the ground glass, but will in no way get rid of the coarseness. The grain itself must be fine.

Next, he should find out whether the surface of the ground glass is precisely in the same plane as that which the sensitive plate will occupy when fixed in position. This determination of equality of distance from the lens cannot be accurately ascertained by the method which is generally pursued of pushing a foot rule through the opening in the front board of the camera and noting how far it goes, and then trying in the same way a plate in the slider.

A more accurate way consists in laying a rule across the focussing-glass frame and inserting between the edge of the rule and the surface of the glass a slip of card-board cut in the form of a wedge, and noting the distance it can be inserted, and making a mark with a pencil at the place where it touches the straight rule. Next, insert a glass plate in the slider or holder and go through the same operation of measurement. If the point of contact of the wedge is the same in both measurements then, for all practical purposes, the two planes are coincident.

A difference of a hundredth part of an inch between the position of ground glass and sensitive plate may thus be detected. There is however one point to be taken note of. It may happen that the spring at the back of the holder against which the sensitive plate rests and is pushed forward into position

may be too strong so as to force the sensitive plate nearer the lens and change the focus of the image. Many a good lens has been sent back just because the photographer failed to note this accidental misplacing of the plate.

Next thing to note is the covering power of the lens. The diameter of the circle of illumination indicates the dimensions of the plate of which the lens will admit. The degree of definition of the borders of the circular area of illumination of course will vary with the aperture of the lens, being more accurate and sharply defined the smaller the diaphragm. However this degree of definition is not taken in consideration in the test since the size of plate required by the lens under consideration allows for the definition. The diameter of the circle of illumination is made equal to the diagonal of the plate to be used and so falls somewhat beyond the largest measurement of the plate. Thus for instance with an 8 x 10 plate the longest side being 10 inches, if we require the covering capacity of the lens to be in terms of diagonal of the rectangle, it will demand a diagonal of nearly 13 inches, thus allowing, even for the full opening of the lens, sufficient latitude for accurate definition at the margins of the plate.

This latitude which is thus allowed the lens may sometimes enable the photographer to call on his lens for a little more area of dimension even with a full aperture or to go even further with a small stop. Then if he wished to make a plate say 5 x 12, a sort of panoramic view, he would find that his diagonal being in this case exactly 13 inches, while the diagonal of allowance falls a little within 13 inches, he is treading on dangerous ground though he might get there safely with the help of a small stop.

The next point to consider is whether his lens is achromatic. I cannot stop to tell the beginner what this means, but shall merely say that, in ordinary constructed lenses there are two foci, the visual and the chemical foci, which do not coincide. When this coincidence does not happen there is formed a prismatic fringe about the image on the glass just as one sees objects through a glass prism. A small stop is no good here and the chromatic aberration must be corrected by suitable combination of lenses made of glass of different dispersive powers. Still a lens achromatic for central rays of a certain wave length

(that is a lens which brings these rays to the same focus) will not be a chromatic for marginal rays or oblique pencils of light, and pictures made with such lenses, especially of large apertures, will not be sharp all over; though it may be sharp enough to suit the impressionist school and I would suggest the fuzzyites to lay in a stock, but not the photographer who is desirous of possessing a lens to depend on for conscientious photographic work especially when he wishes to do copying.

To test for Achromatism.—Take seven cards and place them on edge in a row on a piece of wood, and let them be at gradually increasing distances from the lens. Put conspicuous numbers on the cards and place the block about 12 feet off and focus accurately on the central card; then take a photograph of it. Keeping the image in the middle of the ground glass and using full aperture of lens; if the middle card comes out sharp the coincidence is complete.

If a card further off than the one focussed upon be sharpest, it shows that the lens has been over-corrected for color-fringes or, as it is generally expressed, has back focus.

It is hardly necessary to give a means for testing under-correction for color. Since very few lenses are subjected to this error, over-correction is the direction in which the error generally lies.

Astigmatism, is a very serious fault, for a lens. It allows the lens to give sharpness only at the centre of the field but no amount of racking of the bellows in or out will get the other parts of the field as sharp. To test for astigmatism place a black cross upon a white card, that is a vertical line crossed by a horizontal line. Focus the cross sharply upon the ground-glass centre and it will be noticed that the image of the two cross lines is well defined and equally distinct. Now move the camera about so that the image of the cross is brought to either top, side, or bottom of the ground glass and examine the image very carefully and it will be found to lack in sharpness. Rack the camera in and out and a point will be found at which the horizontal bar will be sharp while the vertical one will be out of focus and often very blurred. Now rack again and the vertical line will become sharp and the horizontal blurred.

Astigmatism in a lens is only apt to occur in those which

claim great flatness of field as their chief virtue. A portrait lens, which does not give flat field, is generally free from astigmatism or possesses it in a very slight degree.

It will seem that the great objection to astigmatism is the distortion it causes in the picture. The image is either elongated or inordinately flattened in the other direction.

Flatness of field is of course a great desideratum. A perfect lens is one which, while it gives definition at the centre of field with full opening, at the same time maintains that brilliancy at points farthest away from centre of plate.

To determine flatness of field. Place the camera opposite a series of objects of the same kind and at some distance from them, a row of houses will do ; focus with great accuracy at the centre of the ground glass. Observe the crispness of definition and compare this sharpness with that at the margins. A small stop of course will materially flatten the field, but our object is to put the lens to a severe test and make what allowance we chose for practical working.

Striæ in the glass are more serious than air bubbles of small size as the latter do not affect definition.

To determine whether your lens is perfectly rectilinear, that is, gives perfectly straight lines in the image.

Focus at the centre of plate, or any straight object such as the wall of a house, and observe whether the vertical lines remain so when you shift the image close to the edge of the plate. The more or less curvature shows the degree in which the lens falls short of retilinearity.



TONING WITH THE BRUSH

J. RAPHAELS

WE sometimes encounter in our experience with aristo papers more than one tone in the same print—that is, the high lights of the picture are one color the shadows another. On rare occasions the effect is pleasing, the distribution of the tones being in accord with the character of the subject ; but in the majority of cases it is a presentation of things not to be desired.

There are methods, however, for controlling the distribution of tones so as to produce harmonious effect. The subject is not new, nor is the practice just now a novelty.

Platinum printing and carbon printing may be so manipulated that local development may accomplish excellent effects.

But my object is to point out the facility with which double and triple tones may be had with the ordinary printing-out papers by local application of chemical baths.

As far back as 1865, examples of multiple toning were shown by modification of the gold bath alone ; the flesh tints possessed a degree of natural truth and the hair and clothing were skillfully represented.

Recently Dr. Raubert, of Germany, revived an interest in the process by exhibition of a number of excellent examples. We shall draw on his experience and describe the detail of his method.

The print is to be strongly printed, then thoroughly washed as in the usual manner, then placed while wet, face up, in a shallow porcelain dish, which has been previously most thoroughly cleansed. It is now ready for the toning operation. For this purpose prepare three different toning baths : a gold, a platinum, and a uranium bath.

The first gives according to the duration of action of the toning, brown, violet, purple, or blue tones. The second, blacks and greys ; the third, red and flesh tones.

The toning is locally applied by means of a brush which should be as soft as possible, and without a trace of metallic mountings.

The constitution of the gold bath :

Water.....	4 ounces.
Borax.....	15 grains.

Just before using add 1 drachm of solution of gold :

Gold.....	2 grains.
Water.....	1 ounce.

The constitution of platinum bath :

Water.....	16 ounces.
Potassio platinum chloride.....	15 grains.
Phosphoric acid.....	1 drachm.

Constitution of an uranium bath :

(A) Water.....	4 ounces.
Uranium nitrate.....	15 grains.
(B) Water.....	4 ounces.
Ferri Cyanide potassium.....	15 grains.

Mix just before using.

If we have a portrait to operate upon, begin by toning the background with gold, taking care not to encroach upon the face.

After the proper tone has been reached wash the print well off under the top.

Next comes the hair. If this is to be auburn, allow the bath to ripen a little before use. For deep brown add more gold to the bath, taking care, however, to neutralise it with proper amount of alkali. Black hair is obtained by using first the gold bath and following with the platinum.

When the proper degree of tones are obtained wash and fix as usual :

Water.....	16 ounces.
Hypo.....	1 ounce.

and again wash. After fixing if it is found that the gold toned portions are not just what we desire, they may be modified by application of the gold solution. That is, one may strengthen the pupil of the eye for instance. This can only

be done with the gold. No improvement of the platinum tones can be effected after fixing.

The uranium toning which gives the flesh tints is done exclusively after the fixing. Do not let the uranium solution act too long else the portion will be too deeply toned.

Wash again and all is complete.

Green, yellow and pure blue tones are not obtainable by the method above given, and so this process is not applicable to landscapes or seascapes. There are methods adaptable to such subjects, but more of this in another paper.

IMPROVING UNDERTIMED NEGATIVES

G. GIBSON

IN one of the papers contributed to your Journal of last year, the writer sighs for an intensifier for negatives having virtues analogous to those of the persulphite of ammonia reducer.

True science has not as yet, given us any chemical quite as effective as the persulphate is on photographic manipulation, yet there are round-about methods of doctoring unequal negatives so as to approximate results in distribution of light and shade not so very far removed from the harmony of a well-timed and properly developed plate.

Nothing is more unsatisfactory than to see your plate on which your hopes are set, emerge out of the developer with that harshness and unpleasant contrast of light and shade which is called undertimed.

We deplore the untimely birth and wish indeed that a little more exposure had been given to the plate that its evolution as a negative might have been more complete.

Those who have experience, tell us that a very weak developer and a prolongation of the action is the best remedy for

under-exposure. A dilution of developer even to one to a thousand and an all night immersion therein has been offered as a solution of the problem. I have tried it, but even with the modern clear developing agents got very unsatisfactory results.

When I read of the persulphate of ammonia reducer I thought that its peculiar action would adapt it to the modification of under timed and improperly developed negatives.

Reduction before intensification is not a recent practice. Methods for improving negatives by the double process were published more than ten years ago. One, I remember, recommends the preliminary application of ferric-chloride and citric acid before the application of the mercurial intensifier; but this plan was for the rescue of flat overtimed or imperfectly developed negatives not for undertimed work.

The general advice given then for the disposal of undertimed plates was their employment for making frames for pansy beds.

The persulphite of ammonia has the laudable peculiarity of reducing the high lights before it attacks the shadows; so that in many cases we can improve an undertimed plate by simply reducing it until the relations of light and shade are better proportioned.

Take 30 grains to 16 ounces of water and always add 3 or 4 drops of sulphuric acid.

After the high lights are brought down to the proper relations, if the negative is by the simple operation made harmonious we need to proceed no further in the business, but simply wash, place in the hyposulphite of soda bath, as recommended, and again wash; but if the whole negative is pale and ghostly looking, but still shows proper contrast, we may make it better for printing by intensification. In this case instead of placing the reduced negative after the washing in the hypo bath we proceed to intensify upon the image unfixed—the reduced silver forming a better nucleus for the deposit of the mercury. Of course it is necessary to carry on this intensification in subdued light.

If the plate is known to be undertimed it is better in the development not to allow the high lights to get too far in advance but be sure that all the detail possible is secured in the shadows.

INCLINING THE CAMERA.

H. HOWLAND.

IT is the general practice of photographers, when taking a seated figure to tilt the camera downward instead of having the sitter on a level with it. Artists, on the contrary, whenever they paint a portrait, elevate the subject on a platform, so as to bring it on line with the vision.

This inclination of the camera will cause a material difference in the appearance of the head, and may indeed entirely alter the expression of the face.

If we take a picture of the same object, a bust for instance, from the same point of view, but vary the angle of inclination upward and downward, and examine the result, we shall be surprised at the difference. Where the camera is level with the head or bust the eyes seem to look straight forward. Where the camera is tilted upward, the head is thrown backward, and the eye appears turned upward. Where the camera is inclined downward, the head is bent forward, and the forehead appears broader, and the face is more pointed towards the chin.

These changes in the position of the camera, by altering the lines of the head, make a difference in the character of the face. According as the same face (in the bust) is made to look up or down, a scornful or sad impression is produced. Of course in the living sitter expression is in a great measure dependent upon the individual temperament, but even then the manipulation of the camera may be of service. Portrait cameras, as well as landscape cameras are supplied with the swingback, and the photographer may call on its agency to rectify the distortion of the tilt. But the swingback demands more caution in its employment in portraiture than in landscape, and a previous application of the inclination may be called into service to produce certain desired effects.

We are generally accustomed to see our fellow mortals on a dead level with ourselves, and the average portrait looks most

natural when so taken. But occasion may demand an elevation of the subject, (especially during these heroic times).

My attention was recently directed to the importance of judicious use of inclination while observing a photographer of note engaged in photographing a statue in one of our museums of art. The statue was somewhat above the level of ordinary vision, and as the photographer, could not get all the distance from the object he desired, I expected to see him employ the swingback, but this he did not, allowing on the other hand his camera to assume a slight inclination upward. On inquiring the reason for this procedure, he informed me that a statue representing a heroic cast, and dignity of expression, a triumphant scorn, if we may so say, of us humbler mortals, demands an intensity of the effect and not a diminishing.

Experience had taught him that by raising his camera on a tall tripod or platform so as to get a level aspect, he lost not only the dignity of the original, but gave a strange and distorted image of it. Such statues are intended to be looked up at and the sculptors chisel the features accordingly. Our famous William Penn statue or Bartholdi's great monument of Liberty, when seen on the level earth, look odd enough, because they never were intended to be so seen. Hence a lesson may be learned of importance when one has to photograph statues. We see the distorted proportions in many a photograph of ancient sculptures produced by a too conscientious use of swing-back.

There are statues and groups however, which may demand an opposite treatment, a downward inclination, Nereids and Tritons which are supposed to live at sea level, or about fountains.

A writer in the last number of your journal calls attention to the too slavish observance of the use of the swingback in architecture and the unnatural effect produced.

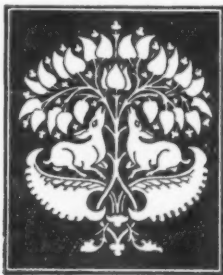
In landscape it may be advantageous to tilt up or down at times to get dignity or solemnity of scene. Particularly is this the case in photographing an avenue of trees so as to give the effect presented by nature.

Often to get a better view of an architectural subject we go to an elevation with our apparatus, or climb up to the roof of a house opposite.

When we overlook an extended field the effect is generally improved thereby, but when large and imposing subjects are photographed there is a danger of depressing, and the effect is nullified.

The distance at which a head is taken often materially changes the character by narrowing or broadening the face, especially when a full face is delineated.

Where the camera is close up, the face is narrowed. Where the camera is removed further off the face is broadened because we see more of the cheeks. The same face may thus really be given either a robust or delicate appearance. Where the camera is closer, the chest is narrowed, and the face made thinner. So it is important not only as regards size of figure but also character to determine the distance from which the figure is best presented. A stout figure may thus be modified in proportions and the result be more pleasing to your patron, or a thin person made slightly more robust to his or her advantage pictorially. A photographer in portrait taking might employ different foci lens to secure desired effects. In making enlargements from small size negatives we frequently notice an amount of distortion or rather exaggeration of subject which was not perceptible in the miniature, hence the importance of taking proper distance when making negatives intended for enlarged work. We have often heard the person for whom the enlargement was made say that it made them look too slender. The reason being that the small negative had been taken too close: a long focus lens should have been used.



IN PHOTOGRAPHY, AS IN ALL ART, EXTREMES SHOULD BE AVOIDED

C. J. BECKER.

ALL affectations, imitations, grotesques, and sometimes burlesque fads, at the sacrifice of common sense, are folly and nonsense, in fact, humbug. While the inventor of such a fad, may as a redeeming point, claim originality, the crowd of imitators and followers can claim nothing. The little individuality they may possess is lost in endeavors to make their productions (things beyond understanding) pass for high-art impressionism.

The last exhibition of the Photographic Society of Philadelphia shows a decided return towards the right direction—honest photography, instead of incomprehensible blurs of subjects, human or otherwise, which must have been intelligently sought, some for their ugliness only, void of all technical perfection, which the great advance of photographic instruments and chemicals make possible, for almost all to succeed in. A photograph much out of focus is certainly somewhat out of drawing. Art, to a great extent, is a matter of taste, but the idiosyncrasies and absurdities of perverted taste, audaciously put before the public (as inspirations and impressionism), are certainly not art.

From a Boston paper I clipped the following definition of "Impressionism :"

Connoisseur—"It sounds mean to repeat it, but he declares that your landscape did not look a bit like nature."

Artist—"Ah, that was high praise. The true impressionist does not have to indulge in servile imitation of the object he depicts."—*Boston Transcript*.

However, all this is now passing away and we are coming back again to that common sense, which is seeing things as they are, and doing them as they should be done.

VIGNETTING BY ARTIFICIAL LIGHT

JANSEN

WHEN artificial light is used in vignetting greater care is required than when daylight is used. It is necessary to have the artificial light as diffuse as possible, and the various devices employed with daylight operations require much modification to adapt them to the exigencies of artificial illumination.

There are a number of excellent ready-made vignettes to be had from the dealer in photographic requisites which are admirable. Some are of stained glass, others of celluloid or similar material, properly gradaded, and any of these would be applicable for night work, but the chief drawback is that they will not cut off just the portions which are desired to be cut-off and no more.

It is impossible to obtain a ready-made vignetter adapted to every special subject, and so one is obliged to make his own vignetter. That is, to cut out a hole slightly less than the desired amount of negatives to be printed. Such a screen placed at a distance (suggested by Mr. Brooks in your last issue, page 502) three-eighths to half an inch from the negative will with gaslight make beautifully graduated images, especially if the printing frame is kept in motion.

To secure the best effects it is necessary that the artificial light fall uniformly upon the negatives, that is, equally in all directions. If the light is stronger on one side than the other the printing will be heavier on that side than the other. This defect would happen even when the light is diffused daylight. Of course it is more likely to take place when the vignetting is done in the sunlight, or when the concentrated light from a gas or Wellsbach burner is used as a source of illumination.

Hence the necessity of diffusing the light. The direct flame should never be employed but only reflected light from some white surface; or the light from the flame may be diffused by interposition of a ground glass or tissue screen. This of course increases the time of exposure.

If the vignetting frame be suspended on a horizontal swinging board in such a position that the light falls at a very acute angle and the board be kept in regular motion the vignetting will be produced very uniformly.

THE NEW vs. THE OLD

BY E. M. ESTABROOK

GUERIN, of St. Louis, stands in the front rank of photographers as an artist and a connoisseur. He is a practical workman, and his opinions concerning a matter of taste or artistic merit should be held beyond cavil by the profession; but, as men are of different minds, *de gustibus non disputandum* is the final decision.

It was, therefore, with great delight that I read Guerin's letter concerning "Freak Photography," and I fully coincide with his ideas on the subject. If Guerin is not right in his stand, then the world does not move from good to better; then study and observation and hard work accomplish nothing of progress and advancement; then the artist of the olden times, with their crude colors and imperfect tools, are the cynosures, and the later disciples of art should be only imitators. The painters of to-day as far exceed the old masters in harmony of colors, in delicacy of detail, in correctness of drawing, and in beauty of finish as does the lily exceed the best efforts of them all. Nature, then, is the teacher that we must all go to for instruction in art matters. Man's taste becomes vitiated, but nature's ever remains true to the model set by the greatest artist of them all—the Creator.

Now, if we take nature's as the standard, must we not accept Guerin's opinion as the nearest right? He says flowing lines, richness of detail, and lustrous surface—commonly called chemical effect—approach nearer the divine plan than the crude fussiness, the deadly flatness, and harsh contrast of the

so-called new style, but which is nothing on earth other than an attempt to cover up incapacity and ignorance by an attempt to revert to the earlier dark ages, in imitation of the old masters, who are only masters because, considering the times in which they lived and their limited facilities, they accomplished wonderful things for their age.—*Wilson's Photo. Mosaics.*

NOTES

WE regret that credit was not given to Mr. Caleb Nuss, of Philadelphia, for his picture, "Summer Time," used in the December number. We wish at the same time to congratulate Mr. Nuss upon the excellence of the picture, and trust he will favor us with other specimens of his handiwork.

The Camera Section of the Wilkes-Barre Wheelman announce an amateur photographic competition, open to all amateurs, until March 9th. There are no special rules, and no restrictions, as to size, subject or number of prints. An entry fee of twenty-five cents will be charged each exhibitor, which goes towards purchasing prizes and the return of the photographs. All prints must be sent in carriage paid. No application blanks will be issued,—merely send the pictures, mounted, not framed, bearing the title and return address on the back of mount. No letter of explanation is necessary, as the entry fee can be sent with the pictures. Eight prizes, aggregating in value \$150.00, are offered. Owing to a lack of space we mention only the first prize: a 5 x 7 No. 6 Pony Premo, listed at \$40.00, with the privilege of purchasing a Zeiss 6 double anistigmat lens at 25 per cent. less than list price. There are no classes, and all photographs entered will be exhibited and catalogued.

Awards will be made on the following basis: Art value of composition, 50 per cent.; originality, 25 per cent.; technique, 25 per cent. The jury of award consists of one artist, one

sculptor and designer, one amateur photographer and one professional photographer.

The exhibition will be held in their Club house on March 29th, 30th and 31st. Address all communications to R. S. Kaufman, Secretary, A. P. Contest, 106 So. Main Street, Wilkes-Barre, Pa.

Photographic Manufacturers' Association of America. An important two days' conference of the leading photographic manufacturers not in any way connected with the Rochester Trusts or Combinations, was held at the Waldorf-Astoria in New York, Tuesday and Wednesday, Jan. 9th and 10th. The meeting was attended by the following representative firms engaged in the various branches of photographic manufactures: Manhattan Optical Co., by Mr. Schaeffer, of the F. & M. Schaeffer Brewing Co.; the Bullard Camera Co., by its manager, Mr. Bullard; the Scovill and Adams Co. of New York, by its President and Vice-President, Mr. W. I. Lincoln Adams and Mr. A. C. Lamoutte, also by its Director, Mr. James F. Chard, of the Thornton and Chester Milling Co., of Buffalo; the Kozy Camera Co., of Boston, by Mr. U. K. Pettingill, of advertising renown; the veteran dry-plate maker, who is now also making sensitized paper and films, Mr. John Carbutt, of Philadelphia; the Defender Paper Co., of Rochester, by its Treasurer, Mr. M. B. Hoyt; the Vive Camera Co., of Chicago, by its Vice-President, Mr. Atwater; the Adams and Westlake Co., also of Chicago; the Gundlach Camera Co., of Rochester; Charles Cooper & Co., of New York, by its Manager, Mr. Kleinhaus. Willis & Clements, of Philadelphia and other companies were represented either personally or by proxy. The sessions were well characterized by a marked spirit of unanimity, and all the gentlemen present expressed themselves as strongly in favor of protecting the real interests of the photographic trade throughout the country by maintaining open competition and preventing arbitrary actions from having the injurious effects which they otherwise would produce. It was unanimously resolved to effect a permanent organization, and a committee, consisting of Messrs. Schaeffer, Carbutt, Atwater, Lamoutte, Bullard, Adams and Hoyt, was appointed to attend to the incorporation and other important matters pending the

completion of the permanent organization. It was decided to at once issue to the trade a circular stating the position of the manufacturers composing this Anti-Trust Association, and it is hoped that in their own interests the individual dealers throughout the country will cordially co-operate with this business association in its liberal line of action.

SCIENTIFIC NOTES

M. Defays (Helios) advocates the employment of ammonia in place of Hypo as a fixing agent. The fixing power of ammonia of course is known, but its high price precludes its use, but M. Defays thinks that the greater surety of permanency compensates for the difference in cost. He recommends for prints on albumen paper collodio chloride and gelatine paper a bath compounded of one volume of ammonia to five of water. The albumen prints require five minutes fixing, the other papers from ten to fifteen. The prints present a fine appearance, good color and clear whites and are more vigorous looking than when hypo is used, and moreover, contain nothing conducive to fading.

Prof. Valenta, writing in *Photographische-Correspondenz*, points out that an alkaline nitro prusside in connection with a ferric salt (which is known to be sensitive to light), may be used for obtaining various colors in photographic prints.

He makes use of a mixture of 25 grammes of sodium nitroprusside, 30 grammes of ammonium citrate of iron, and 100 c.c. of water. The greenish salt of ammonium citrate of iron gave greater sensitiveness to the paper than the brown salt. The paper is similar in color to ferro-prussiate paper, and the exposed parts dark brown. The print is fixed like the blue print in water and the tone is converted into brownish-green. A two per cent. solution of acetate of lead converts the color into deep violet. A little magnesium citrate added to the original sensitising solution causes the print to assume darker

tones when subjected to the lead bath. Prof. Valenta remarks that he has been unable to obtain with the ferric-nitro prusside any tone resembling the plantinotype as claimed by West.

A Prepared Paper from which a few Prints may be taken by the Lithographic Method.—In the *Photographische Correspondenz* (October issue, 1899, p. 500), mention is made of a paper, or rather card, which is covered with an enamel-like stratum, this coating having all the essential qualities of the lithographic stone. The new material is described as "stein-papier," which term we may freely translate as "litho-stone card," the manufacturers being the "Gesellschaft für Gra-

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phische Industrie," of Vienna. From the following particulars it will be obvious that the process-worker and the photographic experimentalist can make many uses of the new material. Drawings on the paper may be gummed, then inked with fatty ink, after which several impressions of transfers may be made on stone or zinc, any required alterations being made from time to time by scraping out; but obviously this scraping must not be so deep as to remove all that composition which acts lithographically. An impression from type, a wood block, or a relief etching, can be taken on the "litho-stone card," and, after any necessary additions or alterations, it may be transferred to stone or zinc; the impression on the card being undamaged, and in a very convenient form for storing away. Furthermore, a silver photograph may be made on the "litho-stone card," and on this a translation into line may be sketched, the sketch being then inked in and transferred. As the new material does not stretch when moistened, it is likely to prove useful in transferring keys or outlines for color work. —*London Amateur Photographer.*

Prof. Tobin mentions as a novelty in development the use of vanadium peroxide, sulphuric acid, metallic zinc and water. The formula calls for equal parts of sulphuric acid and water, and half the amount of vanadium. The zinc is added in excess until effervescence ceases and the solution becomes lavender color. This is stock solution, one drachm of which is added to sixteen of water to form working developer. The high price of vanadium, however, will hardly tempt the photographer to try its virtues.

Helios, gives several formulæ for toning bromide prints. After fixing the developed print wash it thoroughly, and then bleach in 2 parts nitrate of lead, 3 parts potassium ferrid-cyanide, and 24 parts of water. This bath reduces as well as bleaches, so take care not to overdo it. For yellow tones immerse in water, 24 parts; neutral chlorate of potash, 1 part. For brown tones use water, 30 parts; strongest ammonia, 1 part; Schlippe's salt, 2 parts. For green tones use water, 10 parts; perchloride of iron, 1 part. For red tones immerse a yellow-toned print in water, 10 parts, chloride of copper, 1 part. In each case, when the desired color is reached, wash the print

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well. For Bartolozzi red wash the print very thoroughly after fixing, and bleach in a weak bath of potassium bichromate, acidified with hydrochloric acid. Then immerse in water 24 parts, Schlippe salt 1 part.

Prof. Finson, of Denmark, has been recently experimenting with light as a therapeutic. He finds that the blue, violet and ultra violet rays of the spectrum, are the factors in the causation of a skin inflammation in small-pox cases known as *eythema solare*. The discovery suggested to him the benefit derived from exclusion of these rays by absorption of red glass. Small-pox patients under the modifying influence of the red-rays, showed no distressing symptoms of inflammation. The numerous cases of X ray inflammations have been shown to be caused by the ultra violet rays. Finsen's experiments include the insertion of tubes filled with silver chloride under the skin, these being blackened by the rays when directed upon them. He considers that the violet rays isolated and cooled by a special service are a valuable therapeutic in skin diseases of a microbe origin. The rays, it is known, very speedily kill bacteria. He has treated several hundred cases with very satisfactory results.

Prof. Keebler, of the Lick Observatory, who has been making a series of photographs of the great nebula of Orion upon ordinary and also orthochromatic plates with yellow screen, shows that there is quite a difference in the color of the parts not visible to the eye through the telescope.

Reduction with Persulphate. Our recent note on this subject has brought a letter and a slide from a correspondent, which has been reduced with persulphate in such a way that the deepest shadows have been made distinctly more transparent than some parts which were originally lighter. At the same time their color has been altered from greyish black to red brown. Looking at it critically, we naturally tested it at once to see if these parts were actually lighter, regarded as a negative, than the others, and made a print from it accordingly. The print, however, told the same tale. The case is one we have never paralleled in our own experience, and we hesitate

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to say what we deem to be the cause of it. Employed on a thoroughly fixed and washed negative, followed by a sulphite bath in the usual course, we have repeatedly reduced negatives, in some cases slightly, in others more so, and in some until the whole image disappeared. Never, though, have we at any stage of the operation observed that any position of the plate originally darker than another became lighter. The particular slide in question had a preliminary bath of formalin, and it is possible that this may have had something to do with the phenomenon. Our correspondent says. "If you can explain how to avoid this I shall be glad." We cannot. Perhaps some reader may be able to throw some light upon the matter.—*Photography (London.)*

BUSINESS NOTES

Lantern Slide Color Photographs.—Several years ago, Mr. Ives made a large series of lantern slide color photographs from his "Krömsköp" negatives, having devised a new and more perfect and practical process of color print making than anything that had previously been proposed. A considerable number of these color slides were used in illustrating popular lectures by himself and Mr. Jennings, and attracted a good deal of attention at the time. We understood that the further exploitation of this method was deferred in order to give all possible time and attention to the development of the Krömsköp system. Now, however, what is apparently the same method is being exploited in England as a new or improved process, although the descriptions given appear to tally exactly with Mr. Ives' method and results, examples of which are still in existence. We also note that the Ives Krömsköp Company, according to their circular, intend to take up the manufacture of these beautiful lantern slides as a part of their business.

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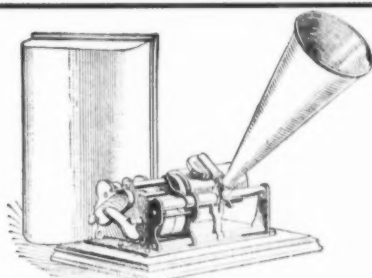
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Kloro is a printing-out paper manufactured by the Photo, Materials Co., of Rochester, which not only prints quickly, but furnishes all that is desired in a photographic print—soft, rich shadows; delicate, clear high-lights, and a beautiful finish. It certainly deserves high praise for its excellence and should be tried by photographers, professional as well as amateur.

The finest results in studio or at home are attainable with the Weiss Flashlight Apparatus. It is easily worked and completely overcomes the smoke nuisance inseparably associated with magnesium ignition. The apparatus is also valuable in furnishing supplementary illumination on dark days, and par excellence for baby and child portraiture. Many novel and striking effects may be obtained in portraiture by adjustment of light at proper angles. It does not produce disturbing reflections or false lights so annoying in flash light work, even with skilled workmen who employ only the powder without the apparatus.

The prolific source of photographic card novelties, The A. M. Collins Mfg. Co., has brought out an entirely new mount called the Carbon Black. It is a shade or so darker than the Royal Black card, which it supersedes.

The peculiarity of the Carbon Black lies in its perfect adaptability either to blacks and whites, or sepias, or aristo platinos. Hitherto no other card mount of a black or gray tone could be made to serve for pictures in brown, so as to translate their peculiar qualities to the best advantage. Carbon Black is the only card which accommodates itself equally to both varieties, because there is a richness and warmth about it that satisfies the artistic eye.

A Colored lantern slide, like Jeremiah's figs must be very good or it becomes a spot in the lantern feast contrasting very unfavorably with the beautiful black and white effects of the ordinary slide. Success in lantern slide coloring presupposes skill and taste on the part of the colorist but even the skilled artist can do nothing with poor pigments. Care should be taken therefore to secure the best colors. George Murphy, of New

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York offers special lantern slide colors which are easily applied and which are said to give rich effects, not affected by the heat or light.

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Short Length Spools for Cartridge Kodaks. Now and then, the photographer may desire to make one, two or a half dozen pictures and does not care to risk the probable waste of the rest of the spool. To meet this want the Eastman Kodak Company, now supply the public with daylight cartridges for kodak work containing rollable film, for six exposures, for all sizes except $1\frac{1}{2} \times 2$ pocket, and cartridge for two each, for the $3\frac{1}{2} \times 3\frac{1}{2}$, 4×5 and 5×7 . This is a great convenience as well as economy and the announcement will be hailed with delight by the great army of kodakers all over the world.

We read in the advertising pages of a contemporary that the Hammer Dry Plate will not frill in hot water. Its constitution must be very tough, to stand such a usage, and it well deserves the name it has. Doubtless, this is one of those vexatious typo errors and should read hot weather instead of hot water. Though the Hammer Plate, like every other good dry plate, could hardly stand such an ordeal, yet it will stand the test for good quality and rapidity.

"Passe-Partouts and How To Make Them," is the title of a little pamphlet just issued by George K. Hazlitt & Co., Chicago, which will be mailed upon receipt of stamp to any Amateur Photographer. This booklet, which is illustrated with half-tones and line drawings, tells not only the right way but the wrong way to make Passe-Partouts, and will be of value particularly to those who have had little or no experience in this form of mounting photographs, which, by the

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way, is the cheapest and most artistic method that can be selected. Hazlitt & Co., are prepared to supply all the requisites for making passe-partouts. Binding tape, rings, staples, backing boards and a variety of artistic tints of mounting boards.

The Illinois College of Photography has again enlarged its borders having secured a magnificent home in Effingham. The structure when completed will be the finest Photographic Building in this Country. The *Effingham Democrat* says :—

"The Illinois College of Photography is the only institution of its kind that has stood the test of time. It was the original and pioneer photographic school, and while six others have been started in the United States, copying after the one here, they have all failed and their promoters have returned to studio work.

"The College at the present time occupies three buildings in the heart of the city, but they are all to be consolidated as soon as Mr. Bissell takes possession. It will then be the finest photographic institution in the world, none even in the largest cities comparing with it in point of elegance and convenience."

The Weno Hawk Eye Camera is a small size camera and just the thing for bicycle riders. Compact, convenient and beautiful in finish and provided with an excellent lens and shutter, and can be loaded in daylight. When we say it is made by the Blair Camera Co., we need hardly say anything further.

We learn from the pamphlet entitled "Collinear Photography" sent out by Voigtlander & Son, N. Y., that the celebrated Collinear lenses can be fitted to all styles of long focus cameras as well as all styles of box cameras, cycle and regular folding cameras. These lenses are just what is claimed for them. Rectilinear, quick, sharp, brilliant and convertible.

Studio backgrounds, that is such as are generally employed by the professional photographer, are intended to give either relief or plasticity to the portrait head or to furnish a setting to the figure, as for instance, landscapes, sea views, garden pros-

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pects, parlors or salons ; so as to give character or motive to the subject. On general principles the background should not come forward too obtrusively and when not dark and entirely plain in its effects should simulate atmosphere behind the head and often should merely suggest what is intended to be introduced as a setting.

When scenic backgrounds are employed great care should be taken to secure correct proportions in the perspective ; neither to have too great distance represented nor too confined perspective. Generally there is too much in the background, it is too elaborate, and frequently there is distance only without a trace of middle or foreground ; and this difficulty, from paucity of foreground of making the figure in harmony with the background cannot be overcome by introduction of supplementary accessories drafted into service. The painting of background, demands not only artistic taste but artistic judgment and it is for this reason that the Seavey backgrounds are so much sought after by photographers in search of the picturesque. These backgrounds were really the first real artistic works offered the photographer and for the last quarter of a century they have been gradually gaining the place of favor, and have won the golden opinion of those who used them to properly set forth the skill of their photographic pose to its best advantage. Knowing that all their efforts in the direction of art could be nullified by the stiff, unnatural, incongruous blotches and daubs which pass current with some as artistic backgrounds.

The Aristo Self-Toning Paper manufactured by the American Aristotype Co., Jamestown, N. Y., is a pure collodion paper for printing-out but which requires no toning whatever, giving rich tones by the mere use of salt water. It is just the paper for the amateur and is adapted to different grades of negatives from soft to medium intense. Our personal experience with this paper was very satisfactory, indeed we were surprised at the beauty of the result obtained by the simple operation of salt bath followed by hypo. It is without doubt the first practical self-toning paper introduced to the market.

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- 641,268. Magazine camera, Jacob J. Chase, Newburyport, Mass.
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